DUAL SENSOR PROCESS TEMPERATURE SWITCH HAVING A HIGH-DIAGNOSTIC ONE-OUT-OF-TWO VOTING ARCHITECTURE

CROSS-REFERENCE TO RELATED APPLICATIONS

7/9/01 PAT 6,704,682

The instant application is a continuation-in-part of prior Application No. 09 / 901,213, to which application priority is hereby claimed.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to temperature switches useful for monitoring fluid process conditions in commercial and industrial fluid transport systems. In a specific, non-limiting embodiment, the invention relates to a high-diagnostic dual sensor fluid temperature switch having a one-out-of-two voting architecture.

2. Background of the Invention

In many commercial and industrial fluid transport systems, temperature switches are employed to measure the operational temperature of a process fluid disposed within the transport system. In particular, temperature switches are commonly used in sensitive fluid transport environments to detect hazardous process conditions, and to initiate the shut down of one or more process functions when a hazardous temperature condition is detected.

Generally, such temperature switches are disposed in an enclosed body that also houses an inert signal transfer medium, such as silicon, thereby effectively isolating the process fluid being measured from the temperature sensors. The housing therefore provides protection for the sensors from physical damage that could be directly caused by the heat of the process fluid. In